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PROJECT EAR, EDUCATIONAL AMATEUR RADIO.

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# PROJECT EAR

## EDUCATIONAL AMATEUR RADIO

EM 005624

BY: Edgar Klugman, Principal
Harrison Ave. Elementary School
Harrison, New York

April, 1965

# SPEAKERPHONE AMATEUR-RADIO-TRANSMISSION FOR EDUCATION

BY: Edgar Klugman, Principal
Harrison Avenue Elementary School
Harrison, New York
April 26, 1965

The voices of the world are at the doorstep of every classroom, through a relatively new gift of technology: The speakerphone amateur-radio-transmission. This medium has made it possible to achieve instantaneous communication between two (or more) points no matter how distant, between two (or more) individuals and between two (or more) groups. A primary source can be only seconds away from the learner. The advantages of this medium permit teaching to be more immediate, alive and up-to-date. Although it is still in a pioneering stage fruitful avenues of exploration are beginning to emerge.

## An Elementary School

Since October 1964, the Harrison Avenue Elementary School, in Harrison, New York, has experimented with "children to children" (and "teacher to teacher") programs for the exchange of ideas and information with the students of a rural school in Uyumbicho, Ecuador. Four forty-minute transmissions have taken place to date. The content of the exchanges grew from relatively superficial descriptions of children's daily activities to discussions in greater depth of the physical, social and school environments of the two communities.

Fourth graders in Uyumbicho wanted to know the answers to such questions as: "What kind of cattle do you raise in Harrison?" "How does your father earn his living?" "What do you mean when you say you have four seasons?"

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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## An International Organization

Somewhat different, but closely related to speakerphone amateur-radio transmissions, is the experimental pilot project in utilizing the speakerphone alone for international communication between professional groups. Educators in Sydney, Australia and in New York City belonging to the New Education Fellowship, an international educational organization, have recently had their first joint meeting. A panel of five participants in each country discussed Australian and American education. Preliminary plans for projects of mutual concern were also discussed. An audience of approximately twenty-five people in each country were able to observe and listen, and later ask questions of the panel members overseas.

## Analysis of Procedures

The success of a speakerphone radio-transmission requires teamwork. The amateur radio operators need to be available at the agreed-upon times. The local school administrator will need to provide ready access to the necessary equipment and space at the appointed times. Part of the over-all program plan, in the event of adverse atmospheric conditions, is an alternate program relay. Each instructor must prepare his audience for possible atmospheric interference as well as for the distorted sound of the transmission.

The local and international application of the concept of the speakerphone amateur-radio-transmission is facilitated when these four groups work closely together:

1. The Initiator of Proposed Plan

The instructor in the local school is the person who initiates the type of learning experience to be developed. He decides whether the experience is to be of an on-going nature or whether one contact will suffice in certain instances. For example, a science group may be studying climatic conditions around the world. Some brief, "one shot" interviews with various weather stations in different parts of the United States and some of the satellite tracking stations around the world may be enough. Suggested dates and favorable hours for transmissions, as well as the length and depth of the study are determined by the initiator.[1]

2. Amateur-Radio-Operator Initiator - Intermediary

The operator must have a "telephone patch" if the speakerphone is to be employed. International communications require the availability of a transmitter with sufficient power to send and receive signals clearly over long distances. The identification of co-operative local amateur radio operators can be achieved through personal contacts, letters, and an appeal to local amateur radio clubs. A form has been developed upon which radio operators can indicate their interest in participating in such projects, their hours of availability and the type and strength of their radio equipment. (See Appendix B)

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[1] See Appendix B Speakerphone Amateur-Radio Transmission Data Sheet

In the development stages of a speakerphone amateur-radio-transmission program, it is well for the amateur radio operator to be knowledgeable about both subject matter and geographical locations. This will help the initiator to know the range of geographical areas and subjects available to him.

3. Amateur-Radio-Operator Contact - Intermediary

The amateur radio operator at the contact point performs one of two functions (and occasionally both):

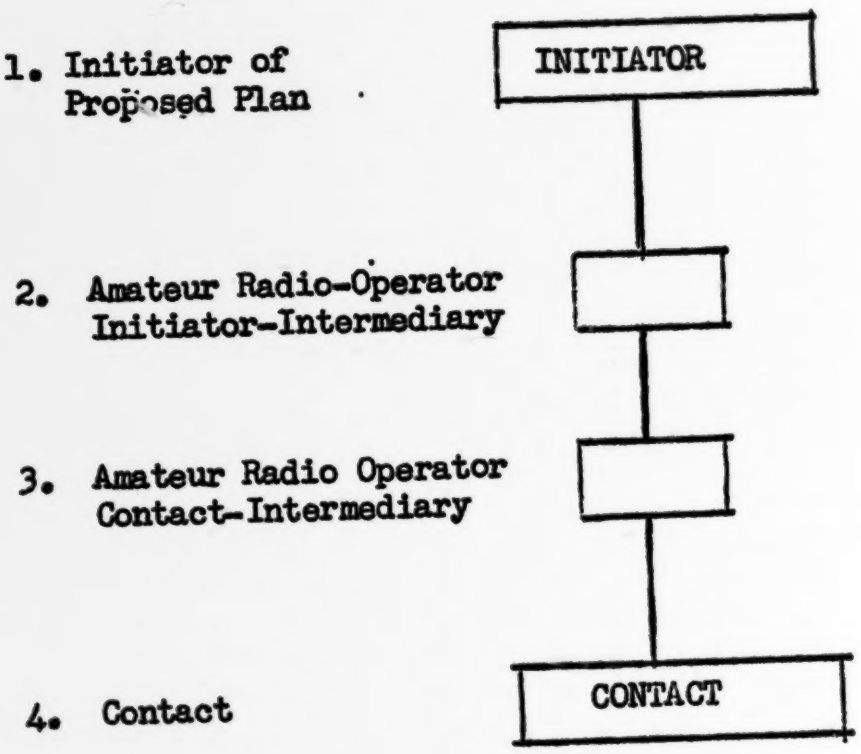
A. He serves as the "information resource person,"

B. He serves as the intermediary for the "information resource person" and transmits the communication to the initiator-intermediary. For example, in a study of ships at sea the ship's radio operator may well serve as the information resource person for a class of children. On the other hand, if the initiator would like his students to speak with a group of students on an American Indian reservation, the amateur radio operator at the contact point serves as the intermediary. As the contact point intermediary, the operator will have to make all of the necessary arrangements before the actual transmission takes place.

4. The Contact

The contact is the information resource for an individual or a group. The contact should be located in the vicinity of the amateur-radio-operator. There may be a two-way exchange of thoughts between the initiator and the contact once the channel of communication has been established.

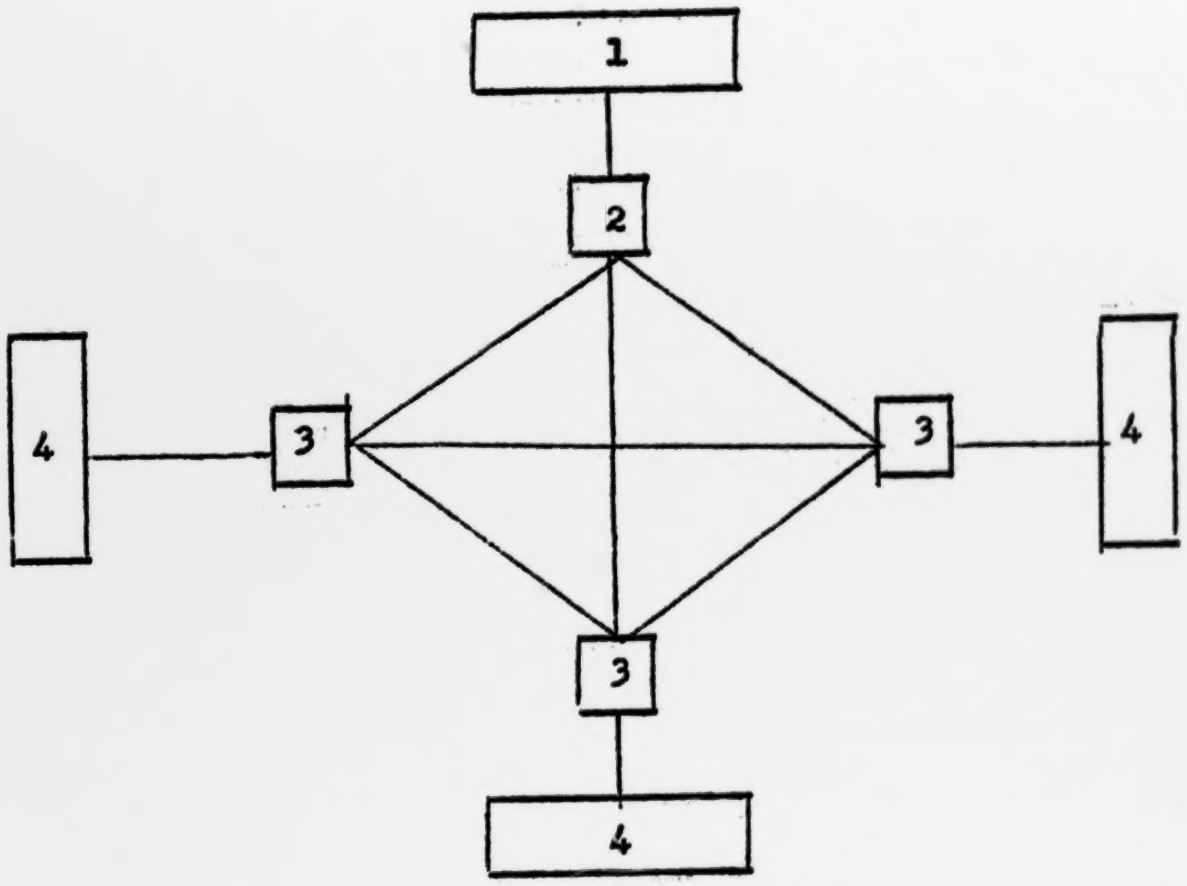
The graph below illustrates the team required in order to carry on an effective speakerphone radio-transmission program.




1. The initiator in the local school specifies the learning experience to
2. The local amateur radio operator who serves as the intermediary in contacting
3. The other amateur radio operator who serves as the intermediary for the
4. Contact.

## N E T W O R K  P O S S I B I L I T Y

The possibility of establishing an educational network (both nationally and internationally) can be accomplished through additional amateur-radio-operators contact-intermediaries and information resource contacts. The graph below illustrates this concept.




1. Initiator
2. Amateur-Radio-Operator Initiator-Intermediary
3. Amateur-Radio-Operator Contact-Intermediary
4. Contact

## What We Have Learned Through the Harrison Project

While an international radio network operated by amateurs is still in an experimental stage, methods for achieving the goal have become clear. The following areas have been explored and will have to be dealt with in the future:

1) the identification and contacting of interested amateur radio operators,

2) the effecting and expediting of "Third Party Traffic" radio operations,

3) the publication and distribution of periodic bulletins, and

4) additional educational considerations.

### 1. Identifying Amateur Radio Operators

The success of the radio transmissions is very dependent upon the identification of a sufficient corps of initiator and contact-point amateur-radio-operators.

In the Harrison, New York, project this task is being coordinated by the Speakerphone Program Committee of the local Parent-Teacher Association. In addition, several amateur radio operators living in the community serve on the committee. The latter have been the key people in helping to identify interested initiator intermediaries.[1] In May of 1965, this group will meet with all of the participants (including the initiators of programs) to formulate plans of action on the local level.

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[1] See Appendix A for letter sent to Amateur Radio Operators.

The identification of the contact point intermediaries will be undertaken as soon as local organization has been achieved. The Harrison project has had indications from several areas in the United States, Puerto Rico and Latin America that amateur radio operators are eager to participate. Their response has come spontaneously through "listening-in" to the "children to children" programs that were being transmitted. (A formal request has not, as yet, been made to these volunteers.)

2. Third Party Traffic[1]

If the concept of the speakerphone amateur-radio-transmission for education is to be useful on an international basis, third party traffic waivers need to be obtained from key regions in the world. The majority of the agreements achieved to-date have been between the U.S.A. and Latin American countries. However, the list changes from month to month. The shifting list is not conducive to long-range planning for educational experiences.

3. Information Bulletin

A periodic information bulletin is being planned containing a listing of the participating amateur radio operators, their geographic locations and the types of information and/or resources which are available in their locales. The bulletin can also serve as an experience record and "memory" for the project. Contacts of routine, as well as unique, nature should be written up so that the knowledge gained from each transmission can be shared.

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[1] An agreement between two countries to permit amateur radio operators to act as intermediaries between other parties.

4. Some Educational Considerations

The Harrison transmissions have included participants numbering from two individuals to three hundred in a single transmission. We have found in a "children to children" program that the smaller the group, the more effective the transmission! When information is sought by a whole class, two to six students can profitably participate in obtaining this information, while the remainder of the class becomes the audience.

A second language can be used in transmissions if the group is small and a minimum of one translator is available either at the local school or at the contact point. The mother-tongue should be used if the experience is planned for a large group (more than two participants).

The time differences among the various points to be contacted is both helpful and a hindrance. When a group instruction experience is sought during Harrison school hours, it is quite possible that it is the middle of the night at the terminal point. It would not be feasible, therefore, to communicate with another group (especially younger children) at this hour. However, we have found it extremely dramatic for an individual school youngster to get up at odd hours of the night and make the contact and gather the necessary information for his class group. The child became dramatically aware of the various world time zones.

In Summary

Progress in the over-all project has been encouraging. We have met interest and enthusiasm at every turn. The project is new enough so that it is still experimental and those who participate find it to be a stimulating learning experience. It is felt that speakerphone amateur-radio-transmissions can provide a major educational resource.

In order that school children in all nations be able to participate in this kind of exchange of information an international education network is required. The United Nations Agencies, UNESCO and the International Telegraph and Telecommunication Organization, as well as individuals, can urge the member governments toward the establishment of such an international education network.

Nationally, an FCC grant for a specific wave-band for educational purposes could facilitate the finding of solutions to most of the technical difficulties encountered thus far in the project.

Easy communication (among youth) may very well hold the key to survival.

Appendix A

SPEAKERPHONE PROGRAM COMMITTEE
PARENT-TEACHER ASSOCIATION

HARRISON AVENUE ELEMENTARY SCHOOL
HARRISON AVE., HARRISON, NEW YORK

Through the use of the Speakerphone and Amateur radio, the world is at the doorstep of every classroom. The Harrison Avenue Elementary School in Harrison, New York, has been experimenting with the variety of possibilities which the Speakerphone and Amateur Radio Communication media afford.

Since October, 1964, the school has experimented with a "children to children" program through which ideas and information with a rural school in Uyumbicho, Ecuador, were exchanged. The resultant interest on the part of both groups led to an exchange of written communications, paintings and gifts and continued verbal contact via radio.

Mr. C. Robert Fine of Station Wb2LUM in Harrison, New York, and Dr. Richard Stewart of Station HCIRS at Uyumbicho, Ecuador, made it possible for this continued contact to take place.

While our experience to date is somewhat limited, we do find that the children and teachers in both countries have benefited greatly from this exchange, and we are, therefore, planning to expand this program in order to serve many more classrooms and children bringing more reality to their studies. For example:

- A sixth grade science class presently studying climatic conditions could contact various weather stations in the U.S. and around the world . . . . where third party traffic is permitted.

- A first and second grade studying American Indians could contact children on American Indian reservations. Interviews and discussions with leaders on the reservations would follow.

- A sixth grade teacher preparing a study on Africa could contact teachers in different parts of Africa discussing her proposed study and if possible obtain up-to-date information and materials from the different areas in Africa. . . . where third party traffic is permitted.

It is our hope that a small-scale demonstration project could be undertaken to test the variety of possibilities and to evaluate the educational and technical problems one encounters. This information would then be compiled, written-up and shared in order to test whether the Speakerphone and Amateur Radio transmission media can be generalized to other educational endeavors.

At the present time, we are seeking more Amateur Radio Operators who are available during school hours and who are willing to help us expand the present program.

If you (and any Amateur Radio Operators Group you might belong to) would be interested in assisting us in promoting this program, would you kindly fill out the enclosed form and return it to us in the self-addressed stamped envelop as soon as possible. Any suggestions you may have with reference to this "pioneering" program would be greatly appreciated.

Very truly yours,

Mrs. Sal Malfitano, Chairman
Speakerphone Program Committee
Parent-Teachers Association
Harrison Avenue Elem. School

Dr. Edgar Klugman, Principal
Harrison Avenue Elem. School

EK:CM
Enclosures

APPENDIX B

SPEAKERPHONE PROGRAM COMMITTEE
PARENT-TEACHERS ASSOCIATION

HARRISON AVENUE ELEMENTARY SCHOOL
HARRISON AVE., HARRISON, N.Y.

NAME _____

ADDRESS _____

TELEPHONE NO. _____

CALL LETTERS OF STATION _____

I HAVE _____ HAVE NOT _____ A TELEPHONE RADIO PATCH.

I AM AVAILABLE TO ASSIST IN RADIO-TELEPHONE TRANSMISSIONS _____

THE HOUR(S) I AM AVAILABLE ARE: _____

_____

I AM DEFINITELY INTERESTED YES _____ NO _____

I WOULD LIKE TO FIND OUT MORE ABOUT YOUR PROGRAM. YES ____ NO ____

I WOULD BE GLAD TO ATTEND AN EVENING MEETING. YES ____ NO ____

I WOULD SUGGEST YOU CONTACT THE FOLLOWING PEOPLE WHO MIGHT BE INTERESTED:

_____

_____

PLEASE MAKE ANY SUGGESTIONS: _____

_____

_____

_____

_____

_____

_____

APPENDIX B

HARRISON AVENUE ELEMENTARY SCHOOL DATA SHEET SPEAKERPHONE PROGRAM
Harrison, New York

Devised by: Mrs. Carol Malfitano
Dr. Edgar Klugman

NAME OF TEACHER _____ CLASS _____ DATE _____

Dates and Hours Convenient to Teacher and Class for Speakerphone Communication:

_____

Subject Matter to be Explored (Brief Description) _____

_____

_____

Places to be Contacted _____

Specify Whom You Contemplate Contacting Over Speakerphone:

A) Public Officials _____

B) Businessmen _____

C) Specialist (Professional) _____

D) Children (Students) _____

E) Others—Specify _____

If possible specify Learning Experience(s) you would like to provide for your students _____

_____

Will one speakerphone communication suffice, or do you anticipate several communications over a period of time in order to cover subject matter to your satisfactio

_____

Briefly Outline Anticipated program for Speakerphone Communication _____

_____

_____

_____

Other Remarks:

_____

_____